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REMARKS

The examiner has rejected claims 3, 4, 11, and 16-20 under 35 U.S.C. 112, first paragraph. It is submitted that these grounds of rejection should be withdrawn.

The examiner asserts that the polyurethane polymers in claims 3, 4, and 16 are not adequately described in the specification. Applicants respectfully submit that this is not the case. First, there is no requirement that Applicants must describe *each and every* polyurethane and/or reactant which may be used according to the present invention. It is urged that one skilled in the art would clearly be able to determine proper polyurethanes and proper reactants for making such polyurethanes in accordance with the present invention upon a reading of the specification as a whole. Applicants particularly point to the disclosure on page 5, lines 1-15 and page 5, line 17 through page 6, line 4. It is therefore submitted that this ground of rejection should be withdrawn.

Regarding claim 11, the examiner states that the specification fails to describe a *resin* whose water solubility ranges from about 0.06 to about 0.19 g/100 g water at a temperature of about 20°C. Applicants respectfully submit that support for this claim can be found, word for word, on page 6, lines 26-27 of the specification, which states that "Another suitable flame retardant comprises ammonium phosphate whose particles have been encapsulated in *a resin whose water solubility ranges from about 0.06 to about 0.19g/100g water at a temperature of about 20°C*. Thus, it is urged that this ground of rejection is improper and should be withdrawn.

Claims 17-20 are rejected as each being dependent on a rejected base claim. Applicants submit that the rejections of the base claims are improper and should be withdrawn in light of the above arguments. It is therefore respectfully submitted that the rejection of claims 17-20 should be withdrawn as well.

The examiner has rejected claims 13-16, 18, and 21-22 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully submit that this ground of rejection has been overcome by the instant amendment. Regarding claim 13, the examiner states that there is insufficient antecedent basis for the term "the UV absorbers" in lines 1-2. Applicants have amended claim 13 to now depend from claim 5, which provides antecedent basis for this term.

Regarding claim 14, the examiner states that there is insufficient antecedent basis for the term "the UV absorber comprising hydroxyphenyl-s-triazine". Accordingly, claim 14 has been amended to change "the" to "a".

Claim 15 has been rejected based on its dependence from 14. It is urged that this ground of rejection has been overcome in light of the amendment to claim 14.

Regarding claim 16, the examiner asserts that there is insufficient antecedent basis for the term "polyurethane (meth)acrylate" in line 2. This claim has been amended to now read "The flame retardant resin coating of claim 1, wherein the base resin comprises a polyurethane (meth)acrylate". Support for this amendment can be found on page 6 lines 6-11 of the specification.

Claim 18 has been rejected for stating that a (meth)acrylate group comprises part of a (meth)acryloyloxy group. Applicants have amended this claim to now state "wherein the (meth)acrylate group is part of a (meth)acryloyloxy group." Support for this amendment can be found on page 6 lines 12-13 of the specification.

Regarding claims 21 and 22, the examiner states that he is unclear as to what Applicants are claiming. It is respectfully submitted that the claim language shows that Applicants are claiming a salt with all of the compounds present, not merely a salt of the first compound of each group. Clearly, if these claims were interpreted as claiming only a salt of the *first* compound, then claims 21 and 22 would each be claiming a phosphonic acid,

a phosphonous acid, a phosphinic acid and/or a phosphinous acid with ammonia and melamine.

For the foregoing reasons, it is respectfully asserted that all of the 35 U.S.C. 112 rejections should be withdrawn.

The examiner has rejected claims 1-15 and 23-24 under 35 U.S.C. 103 over Von Bonin '527 in view of either Valet et al. or Susi, and also in view of the applicants disclosure in the specification.

The examiner is of the position that it would have been obvious for one skilled in the art to combine these references to produce the presently claimed invention. Applicants respectfully urge that this is not the case. It is urged that the examiner is merely reconstructing the art in light of applicant's disclosure by selecting and combining features from references where there is no suggestion in those references to do so.

The present invention relates to a flame retardant resin coating comprising a flame retardant base resin and a transparent resin top layer. It provides a highly flame retardant material which also exhibits good results in the weathering tests. The structure is a key feature of the present invention, because it can provide a colored resin coating which can withstand severe weather conditions and which has a high resistance to fire.

According to the claims, the base resin comprises color pigments, and from about 2.5 to about 50% by weight, based on the weight of the base resin, of at least one flame retardant additive selected from the group consisting of melamine polyphosphates, melamine pyrophosphates, ammonium polyphosphates, and mixtures thereof. The transparent resin comprises from about 0.5 to about 2% by weight, based on the weight of the transparent resin, of at least one sterically hindered amine.

Von Bonin ('527) relates to fire resistant *foam* materials. More particularly, it relates to intumescent masses which may be used to form a foam coating on various objects.

Indeed, the masses formed according to Von Bonin's disclosure are produced by reacting a polyisocyanate with an isocyanate reactive compound in the presence of a polyepoxide. However, Applicants submit that while various fire-resistant coatings are known in the art, and each of them, including Von Bonin's, fails to teach the structure taught by the presently claimed invention. As the examiner admits, Von Bonin fails to teach a coating having the transparent resin top layer which is required by the presently claimed invention. This is a key feature of the present invention which enables the inventive flame retardant resin coating comprising to withstand weathering and remain crack free. Importantly, there is no suggestion from Von Bonin that one could or should apply any coating at all on his fire-resistant coating. Therefore there is certainly no suggestion that one could or should apply a transparent layer thereto, much less a transparent layer having at least one sterically hindered amine.

The examiner attempts to fill this void by citing Valet et al. ('067) or alternatively Susi ('956). Indeed, Valet et al. teaches a clear topcoat layer for protecting against light-induced degradation, which includes a sterically hindered amine. However, it is urged that in forming the instant rejection, the examiner leaps to the conclusion that, in effect, all features of the present invention are therefore prima facie obvious. This is certainly not the case. A careful reading of each of Valet, et al and Susi fails to teach or suggest that their coatings be applied to a flame retardant base, much less a base having a flame retardant additive selected from the group consisting of melamine polyphosphates, melamine pyrophosphates, ammonium polyphosphates.

The invention cannot be deemed unpatentable merely because, in a hindsight attempt to reconstruct the invention, one can find elements of it in the art; it must be shown that the invention as a whole was obvious at the time the invention was made without knowledge of the claimed invention. 35 U.S.C. 103. Applicants submit that there is no teaching or suggestion in Von Bonin or Valet et al. which would inspire one skilled in the art to

combine these references. To be sure, Von Bonin relates to fire resistant masses, while Valet et al. teaches coating materials which are resistant to light-induced degradation. These materials exist in different fields of art, and thus it is again urged that there is no motivation in the art to combine Von Bonin and Valet et al.

Similarly, it is urged that no teaching or suggestion exists which would inspire one skilled in the art to combine Susi with Von Bonin. Susi teaches a protective layer and method for stabilizing polymeric films, coatings, and articles against the actions of light, moisture, and oxygen. Indeed, Susi does teach the possible use of a sterically hindered amine light stabilizer. However, there is still no teaching or suggestion in the cited art which would lead one to combine the fire resistant masses of Von Bonin with the protective layer of Susi. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." In re Geiger, 2 U.S.P.Q.2d 1276, 1278 (CAFC 1987). Like Valet et al., Susi relates to a different field of art than Von Bonin, and it is urged that there is no motivation to combine Susi with the Von Bonin to arrive at the instant invention.

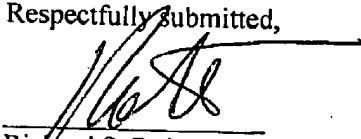
The examiner is of the position that portions of Applicant's disclosure in the current specification constitute prior art. This is incorrect. The disclosure cited by the examiner is a description of Applicant's invention and not any admitted prior art.

The examiner further states that it would have been obvious for one skilled in the art to replace the flame retardant compositions of Von Bonin with those taught by claims 6-12. Again, Applicants respectfully urge that the examiner is impermissibly reconstructing the art in light of Applicant's disclosure. For these and the foregoing reasons, Applicants therefore respectfully request that the 35 U.S.C. 103 rejection be withdrawn.

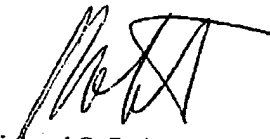
The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there

is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,

  
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I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office (FAX No. 703- 872-9310) on June 24, 2003

  
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